ABSTRACT

The present invention provides a sealing and restraint apparatus to establish a pressure boundary for inflatable or expandable spacecraft. The apparatus is capable of connecting the flexible pressure boundary of an inflatable spacecraft to the rigid structure of the spacecraft. The flexible pressure boundary of the present invention comprises a gas membrane and a restraint layer. The gas membrane minimizes air leakage. The restraint layer carries the forces created by the internal pressurization of the spacecraft. This apparatus provides a hermetic seal and the structural integrity necessary to resist internal pressurization forces.